

CLAIMS

1. Process for the production of *N*-(2,6-dimethyl-phenyl)-2-piperazin-1-yl-acetamide, obtained from the reaction of piperazine with *N*-haloacetyl-2,6-xylidine, characterized in that the process comprises the subsequent steps a) through f) :
 - a) reacting piperazine with *N*-haloacetyl-2,6-xylidine in a molar ratio between about 1/1 and about 6/1 in an aqueous solvent in which has been dissolved an about equimolar amount of HCl ;
 - b) separating the solid formed in step a) from the reaction mixture ;
 - c) neutralizing the filtrate ;
 - d) extracting the filtrate with a solvent which is not or only to a small extent miscible with the aqueous solvent mentioned in step a) ;
 - e) crystallizing the *N*-(2,6-dimethyl-phenyl)-2-piperazin-1-yl-acetamide from the solvent mentioned in step d) and
 - f) separating the solid obtained in step e) from the solvent mentioned in step d).
2. Process according to claim 1 in which *N*-haloacetyl-2,6-xylidine is *N*-chloroacetyl-2,6-xylidine.
3. Process according to any one of claims 1 to 2, characterized in that the molar ratio in step a) is about 3/1 and the equimolar amount of HCl is about 3.
4. Process according to any one of claims 1 to 3, characterized in that solvent for extraction (step d) and crystallization (step e) is toluene.
5. Process according to any one of claims 1 to 4, characterized in that the separation method in step b) and step f) is filtration.
6. Process for the production of *N*-(2,6-dimethyl-phenyl)-2-piperazin-1-yl -acetamide, obtained from the reaction of piperazine with *N*-chloroacetyl-2,6-xylidine, characterized in that the process comprises the subsequent steps a) through f) :
 - a) reacting piperazine with *N*-chloroacetyl-2,6-xylidine at about 80°C in water in a molar ratio of about 3/1, the reaction mixture also containing 3 equivalents of HCl.;

- 5 b) filtering the reaction mixture at about 60°C ;
c) neutralizing the filtrate up to a pH equal to about 10 ;
d) extracting the filtrate with toluene at about 70°C;
e) crystallizing the *N*-(2,6-dimethyl-phenyl)-2-piperazin-1-yl-acetamide from toluene and
f) filtering the solid *N*-(2,6-dimethyl-phenyl)-2-piperazin-1-yl-acetamide.
7. Process as described and elucidated on the basis of the examples.